

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An information processing system, comprising:

a first computing device ~~for~~ configured to:

~~receiving~~ receive an initialization packet originating from a client;

store a data structure associated with a connection to the client;

select a computing device to service the client;

when the first computing device is selected to service the client,

bind the data structure associated with a connection to the client to an application of the first computing device; and

~~in response to at least the initialization packet, establishing a data structure of a connection with the client, irrespective of whether an application of the computing device is associated with the data structure of the connection~~ when the first computing device is not selected to service the client, migrate the data structure associated with the connection.

2. (Currently Amended) The system of ~~Claim~~ claim 1 wherein the data structure includes a group of sequence numbers associated with the connection.

3. (Currently Amended) The system of ~~Claim~~ claim 1 wherein ~~the application is a first application, and wherein~~ the data structure includes an IP address of the client, a port of an second application executed by the client, an IP address of the first computing device, and a port of the ~~first~~ application executed by the first computing device.

4. (Currently Amended) An information processing system, comprising:

a first computing device for configured to:

~~receiving~~ receive a request packet originating from a client; and

when the packet is associated with a connection that corresponds to an application of the first computing device, forward the packet and a reference to an associated connection endpoint to a network protocol stack that is external to an operating system of the first computing device

~~in response to at least the request packet, associating an application of the computing device with a data structure of a connection with the client.~~

5. (Currently Amended) The system of ~~Claim~~ claim 4 wherein the ~~data structure reference includes indicates~~ a group of sequence numbers associated with the connection.

6. (Currently Amended) The system of ~~Claim~~ claim 4 wherein the ~~application is a first application, and wherein the data structure includes reference indicates~~ an IP address of the client, a port of an ~~second~~ application executed by the client, an IP address of the first computing device, and a port of the ~~first~~ application executed by the first computing device.

7. (Currently Amended) ~~An~~ The information processing system of claim 1, comprising:

~~a computing device for:~~

~~receiving an initialization packet and a request packet originating from a client;~~

wherein in response to at least the initialization packet, the first computing device is configured to generate an acknowledgement to the client establishing a data structure of a connection with the client; and

~~in response to at least the request packet, associating an application of the computing device with the data structure of the connection.~~

8-9. (Canceled)

10. (Currently Amended) An information processing system, comprising:

a first computing device ~~for~~ configured to:

~~associating~~ associate an application of the first computing device with a data structure ~~of~~ associated with a connection ~~with to~~ a client; and

selectively:

~~disassociating~~ disassociate the application of the first computing device from the data structure ~~of the connection; and~~

outputting a reference to the data structure associated with ~~of the connection to a second computing device for associating an application of the second computing device with the data structure of the connection.~~

11. (Currently Amended) The system of ~~Claim~~ claim 10 wherein the data structure includes a group of sequence numbers associated with the connection.

12. (Currently Amended) The system of ~~Claim~~ claim 10 wherein the ~~application of the second computing device is a first application, and wherein the data structure includes an IP address of the client, a port of an~~ second application executed by the client, an IP address of the ~~second~~ first computing device, and a port of the ~~first~~ application executed by the ~~second~~ first computing device.

13-15. (Canceled)

16. (Currently Amended) A method performed by a ~~computing device of an information processing system~~ first server, the method comprising:

~~receiving an initialization packet originating from a client; and~~

~~in response to at least the initialization packet, establishing a data structure of a connection with the client, irrespective of whether an application of the computing device is associated with the data structure of the connection~~

storing a data structure associated with a connection to a client originating an initialization packet;

selecting a server to service the client;

when the first server is selected to service the client, binding the data structure associated with the connection to the client to an application of the first server;
and

when the first server is not selected to service the client, migrating the data structure associated with the connection.

17. (Currently Amended) The method of ~~Claim-claim~~ claim 16 wherein the data structure includes a group of sequence numbers associated with the connection.

18. (Currently Amended) The method of ~~Claim-claim~~ claim 16 wherein the ~~application is a first application, and wherein the~~ data structure includes an IP address of the client, a port of ~~a second an~~ application executed by the client, an IP address of the ~~computing device~~ first server, and a port of the ~~first an~~ application executed by the ~~computing device~~ first server.

19. (Currently Amended) A method performed by a first computing device of an information processing system, the method comprising:

receiving a request packet originating from a client; and

when the packet is associated with a connection that corresponds to an application of the first computing device, forwarding the packet and a reference to an

associated connection endpoint to a network protocol stack that is external to an operating system of the first computing device~~and~~

~~in response to at least the request packet, associating an application of the computing device with a data structure of a connection with the client.~~

20. (Currently Amended) The method of ~~Claim~~claim 19 wherein the ~~data structure reference includes~~indicates a group of sequence numbers associated with the connection.

21. (Currently Amended) The method of ~~Claim~~claim 19 wherein the ~~application is a first application, and wherein the data structure includes reference~~indicates an ~~IP~~IP address of the client, a port of a ~~second~~an application executed by the client, an ~~IP~~IP address of the first computing device, and a port of the ~~first~~an application executed by the first computing device.

22. (Currently Amended) ~~The A method performed by a computing device of an information processing system, the method of claim 16, further comprising:~~
~~receiving an initialization packet and a request packet originating from a client;~~

~~in response to at least the initialization packet;~~

~~generating an acknowledgment to the client establishing a data structure of a connection with the client; and~~

~~in response to at least the request packet, associating an application of the computing device with the data structure of the connection.~~

23-24. (Canceled)

25. (Currently Amended) A method performed by a first computing device of an information processing system, the method comprising:

associating an application of the first computing device with a data structure of ~~associated with~~ a connection ~~with~~ to a client; and
selectively:

disassociating the application of the first computing device from the data structure ~~of the connection~~; and

outputting a reference to the data structure ~~of associated with~~ the connection ~~to a second computing device for associating an application of the second computing device with the data structure of the connection.~~

26. (Currently Amended) The method of ~~Claim~~ claim 25 wherein the data structure includes a group of sequence numbers associated with the connection.

27. (Currently Amended) The method of ~~Claim~~ claim 25 ~~wherein the application of the second computing device is a first application, and wherein the data structure includes an IP address of the client, a port of an second application executed by the client, an IP address of the second-first computing device, and a port of the first application executed by the second-first computing device.~~

28-30. (Canceled)

31. (New) The system of claim 1 wherein the data structure comprises a connection endpoint.

32. (New) The system of claim 1 wherein the first computing device is configured to migrate the data structure by:

storing a reference to a second computing device; and

associating the stored reference with the data structure.

33. (New) The system of claim 1, wherein the first computing device is configured to select the computing device to service the client based at least in part on a state of the first computing device.

34. (New) The system of claim 4 wherein the application of the first computing device is a socket-based application.

35. (New) The system of claim 4 wherein the first computing device is further configured to:

when the packet is not associated with a connection that corresponds to an application of the first computing device, selectively encapsulate the packet and forward the encapsulated packet.

36. (New) The system of claim 35 wherein the encapsulated packet includes a reference to the associated connection endpoint.

37. (New) The system of claim 10 wherein the reference is output to a second computing device for associating an application of the second computing device with the data structure of the connection.

38. (New) The system of claim 37 wherein the application of the first computing device is of a first type and the application of the second computing device is of a second type.

39. (New) The system of claim 37, wherein the first computing device is configured to selectively disassociate the application of the first computing device from the data structure based at least in part on a state of at least one of the first computing device or the second computing device.

40. (New) The method of claim 16 wherein the data structure comprises a connection endpoint.

41. (New) The method of claim 16 wherein the first server is configured to migrate the data structure by:

storing a reference to a second server; and
associating the reference with the data structure.

42. (New) The method of claim 16, wherein the selecting the server to service the client comprises selecting a server based at least in part on a state of the first server.

43. (New) The method of claim 19 wherein the application of the first computing device is a socket-based application.

44. (New) The method of claim 19, further comprising:
when the packet is not associated with a connection that corresponds to an application of the first computing device, selectively encapsulating the packet and forwarding the encapsulated packet

45. (New) The method of claim 44 wherein the encapsulated packet includes a reference to the associated connection endpoint.

46. (New) The method of claim 25 wherein the reference to the data structure is output to a second computing device for associating an application of the second computing device with the data structure associated with the connection.

47. (New) The method of claim 46 wherein the application of the first computing device is of a first type and the application of the second computing device is of a second type.

48. (New) The method of claim 46, wherein the selectively disassociate the application of the first computing device from the data structure comprises selectively disassociating based at least in part on a state of at least one of the first computing device or the second computing device.

49. (New) A computer-readable memory medium containing instructions for controlling a processor of a first server to selectively load balance and direct network requests among a plurality of servers by:

receiving a request packet originating from a client;

selectively:

when the packet is associated with a connection endpoint bound to a socket of an application of the first server, forwarding the packet and a reference to the associated connection endpoint to a protocol stack of the first server; and

when the packet is associated with a connection endpoint bound to a socket of an application of a second server, encapsulating the packet and forwarding the encapsulated packet to a second server, the encapsulated packet including a reference to the associated connection endpoint bound to the socket of the application of the second server.

50. (New) The computer-readable memory medium of claim 49, further comprising instructions that control the processor of the first server by:

including in the reference that is forwarded to the protocol stack an indication of a group of sequence numbers associated with the connection.

51. (New) The computer-readable memory medium of claim 49, further comprising instructions that control the processor of the first server by:

including in the reference of the encapsulated packet an indication of a group of sequence numbers associated with the connection.

52. (New) The computer-readable memory medium of claim 49, further comprising instructions that control the processor of the first server by:

including in the reference that is forwarded to the protocol stack an indication of an IP address of the client, a port of an application executed by the client, an IP address of the first server, and a port of an application executed by the first server.

53. (New) A computer-readable memory medium containing instructions for controlling a processor of a first server to selectively load balance and direct network requests among a plurality of servers by:

associating an application of the first server to a data structure associated with a connection with a client;

disassociating the application of the first server from the data structure associated with the connection; and

outputting a reference to the data structure associated with the connection to a second server for associating an application of the second server to the data structure associated with the connection.

54. (New) The computer-readable memory medium of claim 53, further comprising instructions that control the processor of the first server by:

including in the data structure a group of sequence numbers associated with the connection.

55. (New) The computer-readable memory medium of claim 53, further comprising instructions that control the processor of the first server by:

including in the outputted reference an indication of a group of sequence numbers associated with the connection.

56. (New) The computer-readable memory medium of claim 53, further comprising instructions that control the processor of the first server by:

including in the outputted reference an indication of an IP address of the client, a port of an application executed by the client, an IP address of the second server, and a port of an application executed by the second server.

57. (New) The computer-readable memory medium of claim 53, further comprising instructions that control the processor of the first server by:

re-associating the application of the first server to the data structure associated with the connection with the client.

58. (New) A first server, comprising:

a memory configured to store a data structure associated with a connection to a client originating an initialization packet;

a network protocol stack external to an operating system of the first server;
and

a module configured to selectively bind the data structure associated with the connection to the client to an application of the first server.

59. (New) The server of claim 58 wherein, when the first server is not selected to service the client, the first server is configured to migrate the data structure associated with the connection.